

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representation of  
The original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

Serial No. 09/741,843

### **REMARKS**

The undersigned wishes to thank the Examiner for the courtesy of the interview held on September 24, 2002, to which the present remarks are responsive.

Claims 25-43 are canceled and claims 44-94 are added. The claims are supported in the original specification and claims. Claims 44, 60 and 76 are directed to polynucleotide sequences that encode a light chain variable region and/or a heavy chain variable region of an LL2 monoclonal antibody, and are supported in the specification on page 5, lines 20-23, Figures 3A and 3B and Examples 2-4. Additionally, the language in these claims that recites that the LL2 mAb or antigen binding fragment thereof "...retains the immunoreactivity of the mLL2" is supported on page 19, lines 1-5, page 32, lines 19-25 and page 36, lines 8-11. The claims directed to amino acid substitutions in the FRs are supported on page 6, lines 6-13 and page 22, lines 18-23. The vector and host cell claims and method of producing the light and/or heavy variable chains are supported on page 10, lines 16 and page 16, lines 10-page 17, line 36.

As discussed at the interview, certain corrections to the sequence information in this application are needed. Applicants have not amended the specification to conform with these requested changes but hold such amendments in abeyance until the Examiner indicates that the requested changes are supported and will be entered. In these remarks, applicants provide two independent bases of support for these corrections:

#### **Support based on originally filed text, including identified restriction sites, cited references, and vector diagrams**

The originally filed specification describes the steps used to construct the sequences of the claimed antibodies and their DNAs with reference to various restriction sites, cited references and vector diagrams. One of ordinary skill in the art would immediately recognize the obvious errors in the sequences of the Figures (as well as the original paper copy of the sequence listing) based upon the specification as-filed. The included paper copy of the Powerpoint presentation refers to U.S. 5,789,554 ("the '554 patent), the parent application of the present application and refers to the original specification, but applicants also refer to portions of the original application as filed. The Powerpoint addresses errors

Serial No. 09/741,843

in Fig. 5A as issued as well as in the original Fig. 5A as filed.

## '554 Patent - Fig. 5A As Issued

FOLEY LARDNER

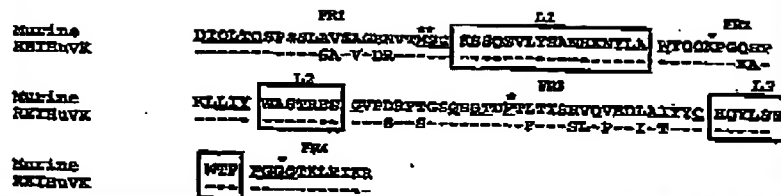
FIG. 5A

GACATTCAGCTGACCCAGTCTCCATCATCTCTGAGCCCATCTGTTGGAGATAGGGTCACT  
1-----+ 60  
CTGTAGTGGACTGGGTGAGAGGTAGTAGAGACTGGGTAGACAACTCTATCCCACTGA  
D I Q L T Q S P S S L S A S V G D R V T -  
ATG ATC GTCCAGTCAAAGTGTTTTATACAGTGCAAATCACAAGAACTACTTGGCC  
61-----+ 120  
TACTCGACATTCAGGTCAAGTTTCACAAATAAGTCAAGTTTAAATGTTCTTGATGAACCGG  
CDR1  
M S C K S S Q S V L Y S A N H K N Y L A -  
TGGTACCAGCAGAAACCGGGAAGCAGCTAAACTGCTGATCTACTGGGCATCCACTAGG  
121-----+ 180  
ACCATGGTCTCTTTGGTCCCTTTTCGTTGATTTGACGACTAGATGACCCGTAGGTGATCC  
CDR2  
W Y Q Q K P G K A P K L L I Y W A S T R -  
GAATCTGGGTGTCCTTCGCGATCTCTGCGAGCGATCTGGGACAGATTTACTTTTACC  
181-----+ 240  
CTTAGACACACCGAAGCGCTAAGAGACCGTGGCTAGACCTGTCTAAATGAAAGTGG  
E S G V P S R F S G S C S G T D F T F T -  
ATCAGCTCTCTTCAACCAAGACATTGCAACATATTTATGTCACCAATACCTCTCTCTCG  
241-----+ 300  
TGGTCTTCTTACCTTTATATAACAGTGGTTATGGAGAGGAGC  
CDR3  
W T F P E I V A Q Y Y C H O Y L S S -  
TGGAGTTTGGGTGGAGGGACCAACTGGGATCAAAAGT  
301-----+ 339  
ACCTGCAAGCCACCTCCCTGCTTCACTCTAGTTTGA  
W T F G G G T K L E I K R

Serial No. 09/741,843

## '554 Patent - Fig. 1A

Fig. 1A.



V Q

SOLEY LARONER

## '554 Patent - Fig. 5A As Filed

- did have VQ, but changed to LE during prosecution of the parent patent.
- did have VQ, but changed to LE during prosecution of the parent patent.
- did have VQ, but changed to LE during prosecution of the parent patent.

SOLEY LARONER

As summarized in the slide immediately above, arguments were made for certain sequence changes based on Fig. 1 during prosecution of the parent patent. The change to IKR was correct, but the change of VQ to LE was incorrect (at the time these arguments were made in the parent patent, LE was thought to be correct). As shown below, however, there are several reasons why one of ordinary skill in the art would have realized that VQ should not have been changed and that IKR was a correct change. In addition, as discussed



Serial No. 09/741,843

"F." Additionally as noted above, original Fig. 5A contained the "VQ" in FR4 "FGGGTKVQICRSP." These two amino acid sequences were incorrectly changed to the corresponding murine sequences during prosecution of the '554 patent. As noted above, SEQ ID NO:21 (SEQ ID NO:18 as originally filed) supports this sequence.

### '554 Patent - Support for Changes

- CGGCAGATCTGCACCTTGGTCCCTCCACCG  
G CCA CCT CCC TGG TTC CAC GTC TAG ACG GC

FOLEY LARONER

### '554 Patent - Support for Changes

- - CGGCAGATCTGCACCTTGGTCCCTCCACCG
  - 
  - 
  - C GGT GGA GGG ACC AAG GTG CAG ATC TGC CGG TC
  - G CCA CCT CCC TGG TTC CAC GTC TAG ACG GC
- 
- 

FOLEY LARONER

Serial No. 09/741,843

**'554 Patent - Support for Changes**

- 
- 

- 

- Q

- 10/10/00 and 11/10/00

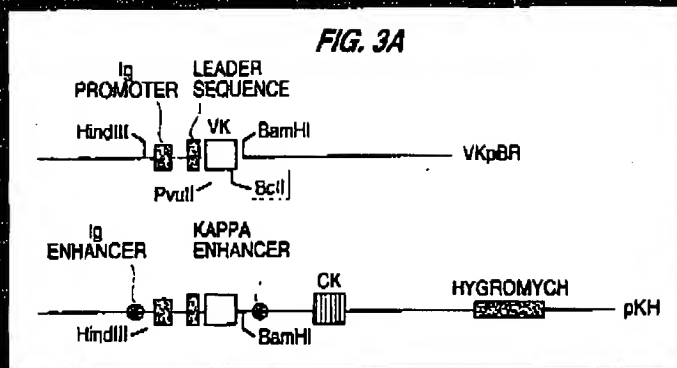
- The production of a chimeric antibody is not a

- Q

K

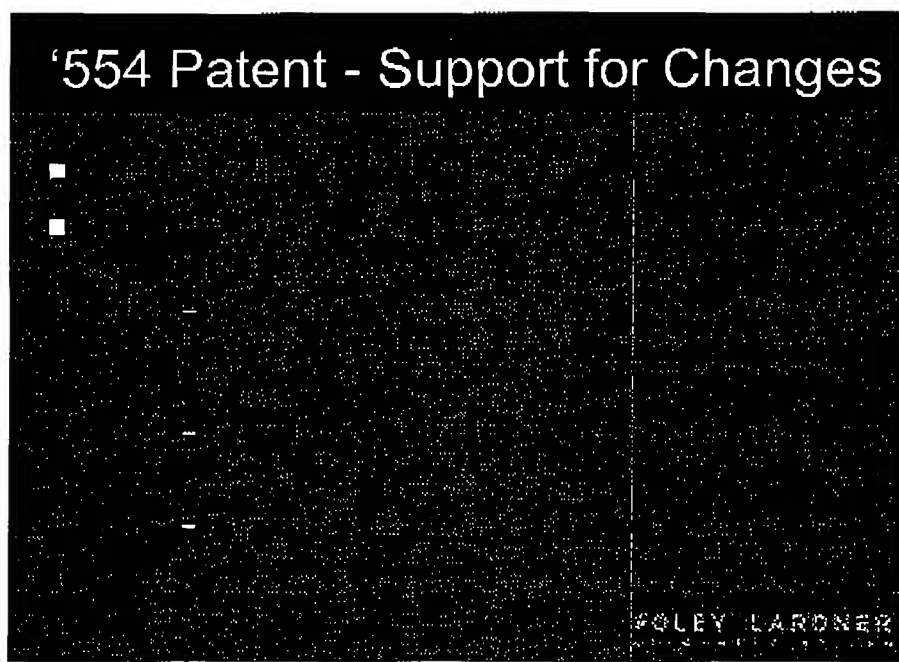
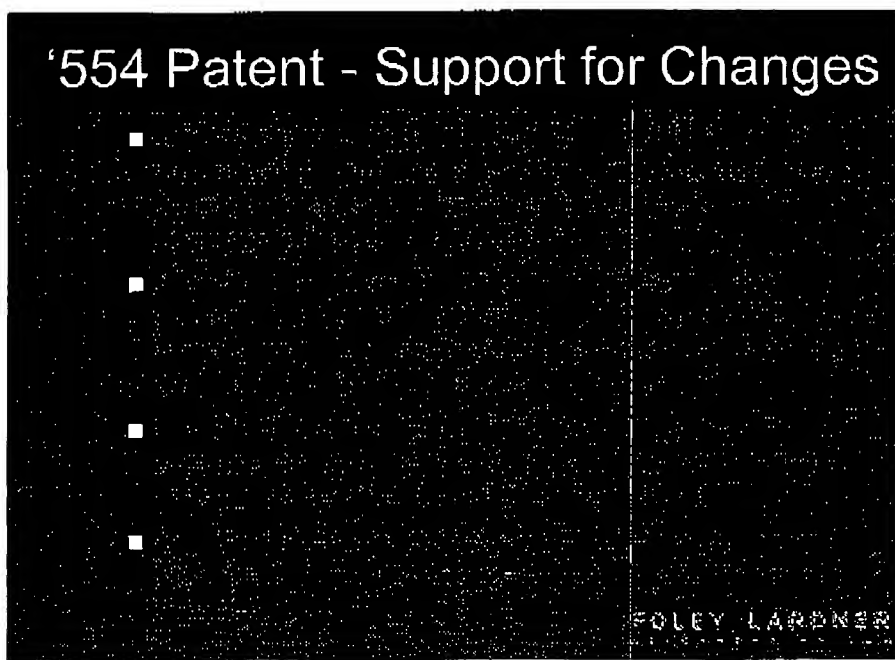
- 10/10/00

FOLEY LARONER

**'554 Patent - Support for Changes**

FOLEY LARONER

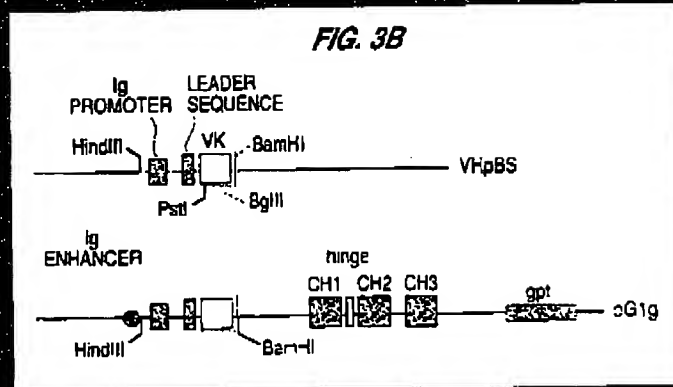
Serial No. 09/741,843





Serial No. 09/741,843

## '554 Patent - Fig. 3B

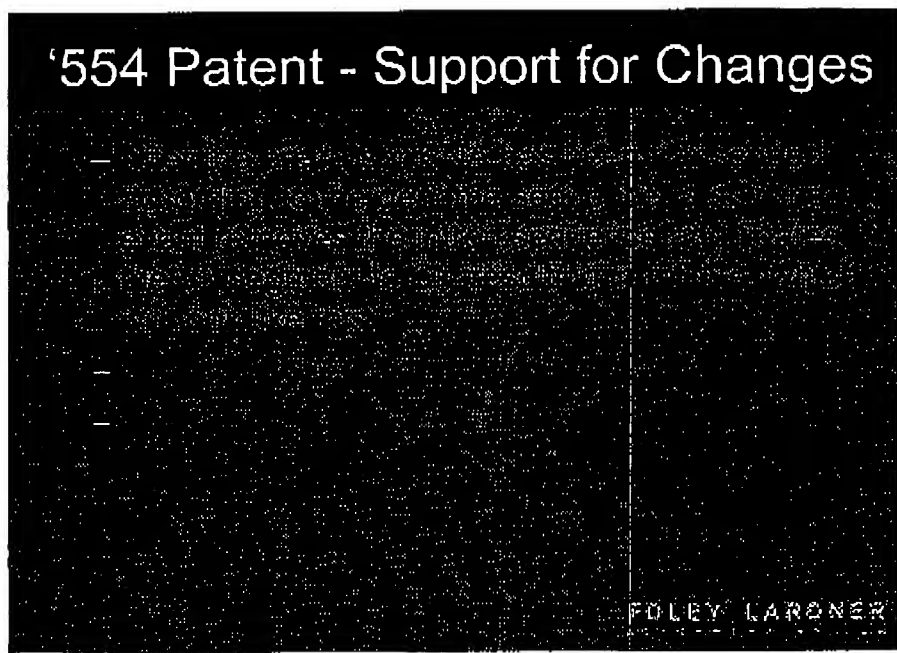
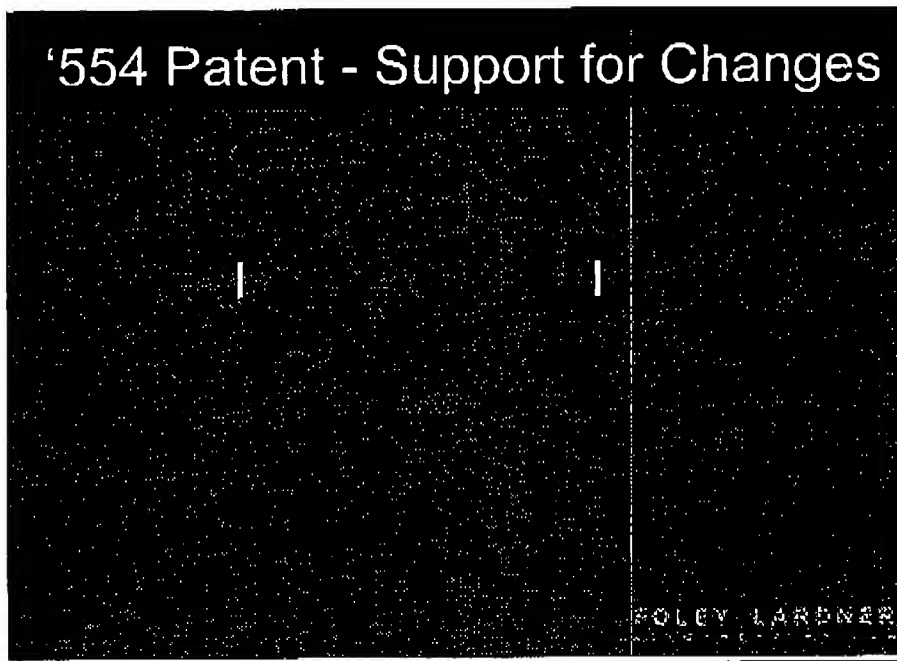


FOLEY LARONER

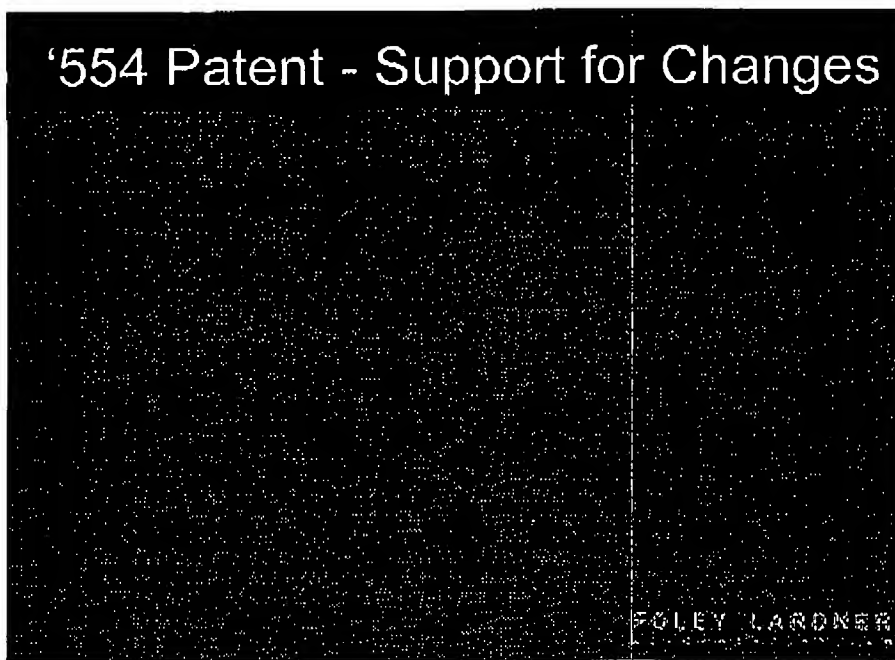
## '554 Patent - Support for Changes

FOLEY LARONER

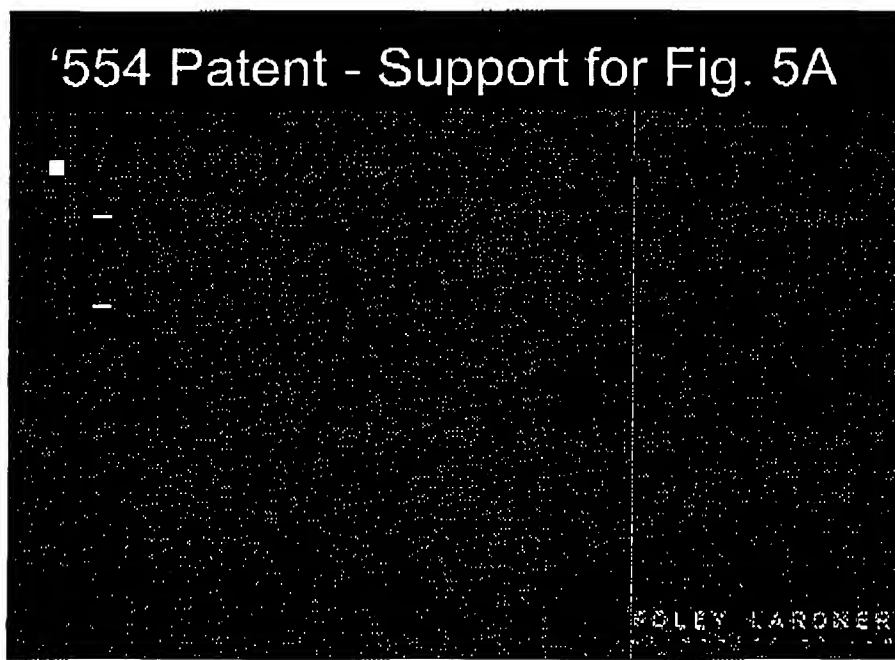
Serial No. 09/741,843



Serial No. 09/741,843



As noted by the explanation above, the sequence in FR4, "ICRSP" of the light chain variable region in Fig. 5A represents an intermediate product of the staging vector before insertion into the expression vector, pKH, as shown in Fig. 3A.



The scientific publications that are referred to above will be provided to the Examiner under separate cover.

Serial No. 09/741,843

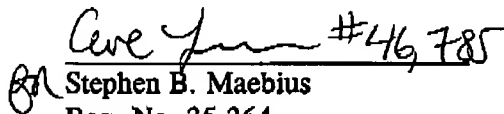
**Support based on deposit of biological material**

Applicants have deposited the two expression vectors, hLL2pKh containing the hLL2 light chain variable region, ATCC No. PTA-4747 and hLL2pG1g, containing the hLL2 heavy chain variable region, ATCC No. PTA-4748, as disclosed in the specification and in Figs. 3A and 3B. Applicants are presently preparing a deposit declaration and supporting documents and will submit these documents to the Examiner. As held in *Enzo Bichem, Inc. v. Gen-Probe Inc. et. al.*, 296 F.3d 1316 (CAFC 2002), a deposit of biological material can be used to satisfy the written description requirement under the first paragraph of 35 U.S.C. 112. Therefore, the deposited biological materials provide further support for the sequence corrections introduced in this application.

Accordingly, favorable examination on the merits is requested. In the event that any issues remain, the Examiner is invited to telephone the undersigned with any proposal to expedite prosecution.

Respectfully submitted,

December 24, 2002  
Date

 #46,785  
Stephen B. Maebius  
Reg. No. 35,264

FOLEY & LARDNER  
Customer Number: 22428



22428

PATENT TRADEMARK OFFICE

Telephone: (202) 672-5569

Facsimile: (202) 672-5399

Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees, and applicant(s) hereby petition for any needed extension of time.